REMARKS

This application has been carefully reviewed in light of the Office Action dated March 3, 2009. Claims 1-10 remain in this application. Claims 1 and 10 are the independent Claims. Claims 1 and 10 have been amended. It is believed that no new matter is involved in the amendments or arguments presented herein.

Reconsideration and entrance of the amendment in the application are respectfully requested.

Interview Summary

Applicant thanks the examiner for the courtesy extended during the interview with Applicant's representative on April 9, 2009.

After Applicant explained the present invention, the Examiner suggested amending the claims to further highlight the "compressed code format types," and indicated that such amendment would overcome the Auerbach reference and would likely place the present application in condition of allowance.

Applicant suggested amending the claims to recite "the plurality of compressed code format types include a first type of a first compressed code length, and a second type of a second compressed code length," and the Examiner found that amendment acceptable.

The substantive issues discussed in the interview are incorporated in the present response.

Art-Based Rejections

Claims 1-10 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,199,126 B1 (Auerbach). (Applicant notes that Auberbach was referred to as U.S. Patent No. 6,879,266 in the Action. Applicant believes 6,199,126 is the correct patent

no.) Claims 5 and 6 were rejected under 35 U.S.C. § 103(a) over Auerbach in view of U.S. Patent No. 6,691,305 (Henkel).

Applicant respectfully traverses the rejections and submits that the claims herein are patentable in light of the clarifying amendments above and the arguments below.

The Auerbach Reference

Auerbach is directed to an apparatus and method for transparent on-the-fly decompression of the program instruction stream of a processor. According to Auerbach, a decompression device is connected between a processor and a memory storing compressed information. The decompression device receives a request from the processor for information, retrieves compressed information from the memory, decompresses the retrieved compressed information to form uncompressed information, and transmits the uncompressed information to the processor. The compressed information may include both program instructions and data. When the decompression device receives a request for information, which includes an unmodified address, from the processor, it generates an index offset from the received unmodified address. An indexed address corresponding to the generated index offset is retrieved from an index table. Compressed information corresponding to the selected indexed address is retrieved from the memory and transmitted to the processor (*Auerbach Abstract*).

The Henkel Reference

Henkel is directed to a method and apparatus for compressing and decompressing object code instructions that are included in a software program that executes on a computer system. (*See Henkel: Col. 1, lines 16-20*). According to Henkel, the method includes extracting compressible instruction and data portions from executable code, creating a mathematical model of the extracted code portions, class

the individual instructions in the extracted potions based upon their operation codes and compressing the instructions. (*Henkel Abstract*).

The Claims are Patentable Over the Cited References

The present application is generally directed to micro controller that processes compressed codes stored in a memory.

As defined by the amended independent Claim 1, a micro controller, including a CPU, performs processing in accordance with a program. The micro controller further includes a memory, storing grouped compressed codes resulting from the conversion of original codes into variable length codes in a plurality of compressed code format types, and each type has a fixed length. The plurality of compressed code format types includes a first type having a first compressed code length and a second type having a second compressed code length. An address conversion information, specifying the head address of each group of grouped compressed codes of variable lengths; and a compressed code type information in blocks corresponding to the groups of the compressed codes are provided. The compressed code type information includes compressed code format type data corresponding to the compressed codes, and indicates the compress code format types of the corresponding compressed codes contained in each group. A compressed code processing part, specifies, from a code address outputted by the CPU, an address conversion information and compressed code type information to be referred, and uses the specified address conversion information and the compressed code type information to determine the corresponding compressed code address and to read the corresponding compressed code.

The applied references do not disclose or suggest the features of the present invention as recited by the claims as amended. In particular, Auerbach and Henkel do not disclose or suggest, at least, "the plurality of compressed code format types include

a first type of a first compressed code length, and a second type of a second compressed code length" recited by amended Claim 1.

As discussed in the interview, FIG. 9 of Auerbach illustrates the index table for addressing the compressed codes (*reference element 910*). The index table stores an header address and a 6-bit offset in each entry (*reference elements 912a and 914a*). The 6-bit offset (914a) is the actual length of the compressed codes, and not "compressed code format types" of Claim 1 (*see Auerbach col. 9, lines 35-38 indicating that the 6-bit field is added to the header address to obtain the address of the next compressed block*). Ergo, Auerbach does not teach or suggest the required "compressed code format types," let alone having a first type of a first length, and a second type of a second length.

In contrast, Applicant's specification FIGS. 2A-2D and 6 illustrate an example embodying the features of claim 1. For example, FIG. 2A illustrates a first type of "compressed code format types" having a 4-bit length; FIG. 2B illustrates a second type of "compressed code format types" having an 8-bit length. FIGS 2C and 2D further illustrate a third type having a 10-bit length, and a forth type having a 16-bit length. FIG. 6 illustrates an exemplary index table. In that figure, a two-bit "compressed code format type" information is stored for each entry. For example, "00" represents the first type having a 4-bit long compressed code; "01" represent the second type having n 8-bit long compressed code; "10" represents the third type having a 10-bit long compressed code; and "11" represents the forth type having a 16-bit long compressed code. As shown by this example, the addressing method of the present invention requires only 2 bits for each entry; comparing with Auerbach's index table requiring at least 6-bit offset per entry, the present invention requires a lot less memory for the index table. Such advantages are not seen in Auerbach.

Henkel is not seen to remedy the deficiencies of Auerbach. Accordingly, Auerbach and Henkel, alone or in combination, fail to disclose, teach or suggest all the features of Claim 1.

Claim 1 as amended is thus allowable over the applied references, and such allowance is respectfully requested.

Applicant respectfully submits that amended independent Claim 10 recites similar features as Claim 1 and is allowable for at least the same reasons as those discussed in connection with amended independent Claim 1 and such allowance is respectfully requested.

Claims 2-9 depend directly or indirectly from Claim 1 and are thus allowable at least for the same reasons as Claim 1. The allowance of claims 2-9 is also respectfully requested.

Conclusion

Applicant believes the foregoing amendments comply with requirements of form and thus may be admitted under 37 C.F.R. § 1.116(b). Alternatively, if these amendments are deemed to touch the merits, admission is requested under 37 C.F.R. § 1.116(c). In this connection, these amendments were not earlier presented because they are in response to the matters pointed out for the first time in the Final Office Action.

Lastly, admission is requested under 37 C.F.R. § 1.116(b) as presenting rejected claims in better form for consideration on appeal.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (310) 785-4721 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
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